Instructions
E43 - Welding (optional)

Assume PM-filterable = PM10-filterable = PM2.5-filterable.

Emission Calculations Procedures:

Facilities may use the default emission factors with Equation 1 to estimate PM-filterable emissions.

E = Q x EF x (1 – C) / 2000 lb/ton (Equation 1)

Where:

E = Annual emissions (tons/year)

Q = Amount of Electrode Consumed (10^3 lb)

EF = Emission Factor (lb/10^3 lb electrode consumed) (AP-42 12.19-1)

C = Control device PM collection and removal efficiency (%)

A factor of 0.01 lb PM/lb rod may be used for TIG welding.

Use emission factors in AP-42 12.19-2 to estimate HAP emissions of manganese (Mn), nickel (Ni), chromium (Cr), cobalt (Co), and lead (Pb) emissions.

If the welding process is not identified in AP-42, Equation 2 can be used to estimate emissions.

E = Q x 0.05 lb PM/lb rod consumed x Ci x (1 – C) / 2000 lb/ton (Equation 2)

Where:

E = Annual emissions (tons/year)

Q = Annual usage of each welding rod (lb/year)

Ci = Concentration of HAP in each welding rod (lb HAP/lb metal)

C = Control device PM collection and removal efficiency (%)

MSDS documentation contains information regarding welding rod material composition.

Louisville Metro Air Pollution Control District
E43 - Welding

Plant ID: Emission Year:

Company Name:

Emission Unit ID:

Emission Process/Point ID:

Shield Metal Arc Welding

Electrode Type:

☐ 14Mn-4Cr	☐ E410	☐ E7018	☐ E9018
☐ E11018	☐ E6010	☐ E7024	☐ ECoCr
☐ E308	☐ E6011	☐ E7028	☐ ENi-Cl
☐ E310	☐ E6012	☐ E8018	☐ ENiCrMo
☐ E316	☐ E6013	☐ E9015	☐ Eni-Cu

Electrode consumed: pounds

Gas Metal Arc Welding

Electrode Type:

☐ E308L	☐ E316
☐ E70S	☐ ENiCrMo
☐ ER5154	☐ ERNiCu

Electrode consumed: pounds

Flux Cored Welding

Electrode Type:

☐ E110	☐ E316LT
☐ E11018	☐ E70T
☐ E308LT	☐ E71T

Electrode consumed: pounds

Submerged Arc Welding

Electrode Type EM12K

Electrode consumed: pounds

Tungsten Inert Gas "TIG" Arc Welding

Electrode consumed: pounds

Other Welding Processes

Process Name:

Electrode consumed: pounds

Material Safety Data Sheet Compositions of the electrode consumed:

Comments or explanations to clarify any data included on this page:

Page Identifier: